ABSTRACT

A split phase DC to AC polyphase inverter having M phases for driving an M-phase load includes, for each phase, N subphases for producing N PWM signals at a carrier frequency. Associated with each of the M phases is one of M averaging transformers. The N PWM signals associated with each one of the M phases is input into the associated transformer. The transformer produces a PWM signal with a frequency equal to approximately N times that of the carrier frequency of that of the N input PWM signals, and with a maximum voltage step equal to the voltage amplitude V of one of the N input PWM signals divided by N. The result is an inverter circuit which produces much lower output current ripple without increasing the total power consumed by the inverter.